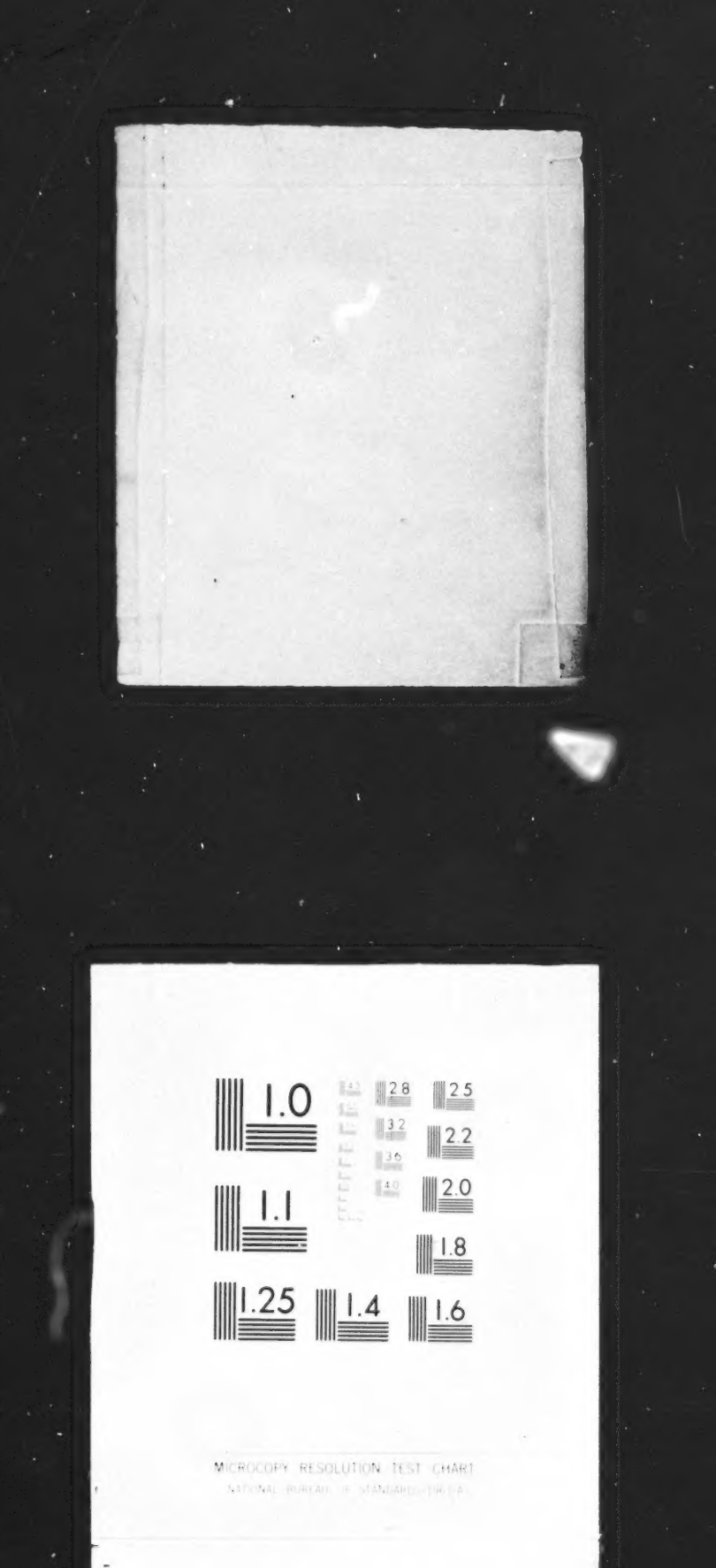
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ABSTRACT

This survey sought to estimate the economic value of children to their parents in two peasant villages in Java and Nepal in order to examine the economic interpretation of fertility. The major focus is on estimating directly the contribution of children's labor in terms of average time spent per day in different types of activities. The support provided by children to their elderly parents was assessed primarily by examining the pattern of residential arrangements. Data were collected and tabulated for work inputs of male vs. female children; work input of children vs. adults; effect of number of siblings on work inputs; children's work input and household economic efficiency; and value of children as old age security. Methodological problems are discussed. Data indicate that work input of children under 15 is quite substantial, and that children most probably have net positive economic value to their parents aside from old age security. (SB)

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MEXICO 1977

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1.3

VALUE AND COST OF CHILDREN TO PARENTS

James T. FAWCETT

VALEUR ET COUT DES ENFANTS POUR LES PARENTS

1.3.1	Economic value of children in two peasant societies	Moni NAG Robert Creighton PEET Benjamin WHITE
1.3.2	Relationships between the value and cost of children and fertility : cross-cultural evidence	Rodolfo A. BULATAO Fred ARNOLD
1.3.3	The value of children (VOC) approach in population policies : new hope or false promise ?	Alan B. SIMMONS

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CONGRES INTERNATIONAL DE LA POPULATION

MEXICO 1977

ECONOMIC VALUE OF CHILDREN IN TWO PEASANT SOCIETIES

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Why do people in some societies or some segments within a society desire more or less children than others do ? A number of economists and demographers in recent years have advanced an "economic interpretation" of fertility which seeks the explanation of differential desires for children and differential fertility levels through the examination of their economic correlates, both over time and cross-culturally. [1]

The "economic interpretation" invites us to assume that the behavior of parents with regard to fertility corresponds to what they would do if they based their actions on calculation of the values and costs resulting from those actions. Assessment of the validity of this assumption clearly requires empirical investigation of the values and costs of children among other things. While the values and costs of a person to *society* have been a subject of study for economists since the last century, the values and costs of children to their *parents* have received much less attention.

PS 009737

[1] G.S. Becker, "An economic analysis of fertility", in *Demographic and Economic Change in Developed Countries*. Universities-National Bureau Conference Series, No. 11, Princeton University Press, Princeton, 1960, pp. 209-240; P. Demeny, "Economic approaches to the value of children : an overview", in *The Satisfaction and Costs of Children : Theories, Concepts, Methods*, J.T. Fawcett, Ed., East-West Center, Honolulu, 1972, pp. 17-23; R.A. Easterlin, "An Economic Framework for Fertility Analysis", *Studies in Family Planning*, Vol. 6, No. 3, 1975, pp. 54-63; H. Leibenstein, "An interpretation of the economic theory of fertility : promising path or blind alley ? " *Journal of Economic Literature*, Vol. XII, June 1974, pp. 467-479: T.W. Schultz, "Fertility and Economic Values", in *Economics of the Family*, T.W. Schultz, Ed., University of Chicago Press, Chicago and London, 1974, pp. 3-22.

Recently a few broad frameworks have been developed for studying the values and costs of children to their parents. [2] The parents' desire for a specific number of children of a given quality may be said to depend on their perception of the different types of values and costs of children. While the emotional rewards of having children may be assumed to provide one of the main motivations for parents in both industrial and peasant societies, the economic value of children may be assumed to provide an important motivation for parents in peasant societies. A recent cross-cultural study in six societies regarding the perception of parents related to the costs and values of children lends some support to this assumption. [3]

The present paper seeks to estimate the actual economic value of children to their parents in two peasant villages - in Java and Nepal. The major focus in this paper is to estimate directly the contribution of children's labor in terms of average time spent per day in different types of activities. The support provided by the children to their elderly parents has been assessed mostly by examining the pattern of residential arrangements.

Anthropological field investigations were conducted in the two villages to collect the data used in this paper. Benjamin White did a field investigation in the Javanese village from August 1972 to December 1973 and Creighton Peet worked in the Nepalese village from July 1972 to December 1973.

The Javanese village is situated at a distance of about 21 miles by road to the northwest of the city of Yogyakarta. The work-input data of the village analysed in this paper pertain to the children and adults of 20 households. These were medium and low-income households and each included at least one, and usually more, children of ages 6 to 19 years. Each household was visited every sixth day throughout the year, that is, 60 times. At each visit the following information was collected among others : (a) time-budget and food

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[2] L.W. Hoffman and M.L. Hoffman, "The value of children to parents", in *Psychological Perspectives on Population*, J.T. Fawcett, Ed., Basic Books, New York, 1973, pp. 19-76; B. Berelson, "The value of children : a taxonomical essay", in *The Population Council Annual Report 1972*, The Population Council, New York, 1973, pp. 19-27; J.T. Fawcett et al., *The Value of Children in Asia and the United States : Comparative Perspectives*, Papers of the East-West Population Institute, No. 32, East-West Center, Honolulu, 1974.

[3] J.T. Fawcett et al., 1974, Ibid.; F. Arnold et al., *The Value of Children : A Cross-National Study*, Vol. I : *Introduction and Comparative Analysis*, East-West Center, Honolulu, 1975.

consumption data of each household member during the 24-hour period preceding the visit; (b) income and expenditure data of the household during the entire 6-day period between interviews.

The Nepalese village is situated in a relatively inaccessible hilly region, northeast of the capital city of Kathmandu. Work-input data, along with other types of data pertaining to the village, were collected for all children and adults in 45 to 50 Thami (a caste lower in rank than the Brahmin and Chhetri castes) households once a month over a period of 7 to 10 months, depending on the household. For a period of 1½ months when school children were available as field assistants, these data were collected for 112 households representing almost all castes in the village. The observational technique was mostly employed for collecting the data although it was supplemented at times by interviews. The number of days of observation and interview varied from one to ten.

Although some activities are performed commonly in the Javanese and Nepalese villages, all the activities of the two villages cannot be categorized in exactly similar ways. Some of the work activities can be considered as directly productive and some mainly as household maintenance. The daily average time spent by various sex-age groups in different activities is presented in Tables 1 to 4.

The presentation of time input in terms of daily average rather than yearly or monthly average has comparative advantage but one should be careful of figures : (1) the daily average number of hours for a specific activity should not give the impression that the activity is performed more or less every day throughout the year; (2) the daily average figure of 0.0 hour for an activity does not necessarily mean that it is not at all performed by any number of the corresponding age-sex group.

Tables 1-4 show that the children in both the Javanese and Nepalese villages spend an increasing amount of time in work activities as they grow up. The variation among children of different age groups in "all work" is caused more by the variation in "directly productive" work than in "household maintenance" work.

WORK-INPUTS OF MALE VS. FEMALE CHILDREN

Tables 1-4 show that in both Javanese and Nepalese villages girls do more work than boys in almost all age groups. The higher average input by girls is due mainly to their

TABLE 1

AVERAGE TIME INPUT (IN HOURS) PER PERSON PER DAY IN DIFFERENT WORK ACTIVITIES AMONG THE MALES OF VARIOUS AGE GROUPS IN A JAVANESE VILLAGE

Boys and men								
Age group	6-8	9-11	12-14	15-19	20-29	30-39	40-49	50+
No. in sample	6	7	10	6	5	9	8	3
1. Child care	1.2	0.5	0.3	0.0	0.0	1.0	0.2	0.0
2. Household food preparation	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1
3. Firewood collection	0.6	0.8	0.9	0.2	0.1	0.3	0.1	0.2
4. Other household maintenance work	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.0
5. Animal care	1.7	1.5	2.5	1.6	2.4	1.3	0.9	0.8
6. Wage labor (agr.)	0.0	0.0	0.1	0.3	0.7	0.4	0.1	0.0
7. Wage labor (non agr.)	0.0	0.0	0.0	1.4	1.0	1.7	0.7	0.0
8. Handicrafts	0.0	0.0	0.1	0.9	0.1	0.1	0.6	0.5
9. Reciprocal labor exchange	0.0	0.0	0.1	0.7	1.0	0.8	0.6	0.6
10. Irrigated rice culture (own land)	0.0	0.0	0.2	1.1	2.2	1.4	2.4	3.0
11. Garden cultivation (own land)	0.0	0.1	0.1	0.2	0.1	1.1	0.9	1.0
12. Trading	0.0	0.0	0.0	1.1	0.3	0.6	1.1	0.0
13. Preparation of food for sale	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.7
14. Others	0.0	0.1	0.1	0.3	0.5	0.2	0.3	0.4
Household maintenance (1-4)	1.9	1.4	1.5	0.3	0.4	1.5	0.5	0.3
Directly productive (5-14)	1.7	1.7	3.2	7.6	8.3	7.9	7.9	7.0
All work (1-14)	3.6	3.3	4.8	8.0	8.7	9.3	8.4	7.3

TABLE 2

AVERAGE TIME INPUT (IN HOURS) PER PERSON PER DAY IN DIFFERENT WORK ACTIVITIES AMONG THE FEMALES OF VARIOUS AGE GROUPS IN A JAVANESE VILLAGE

Girls and women								
Age group	6-8	9-11	12-14	15-19	20-29	30-39	40-49	50+
No. in sample	7	4	6	5	9	11	4	4
1. Child care	1.7	0.5	1.6	0.8	1.0	1.7	0.4	0.1
2. Household food preparation	0.0	0.4	1.1	1.6	2.3	3.5	3.0	2.6
3. Firewood collection	0.3	0.3	0.1	0.0	0.0	0.1	0.0	0.3
4. Other household maintenance work	0.3	1.2	1.2	1.3	1.6	1.4	1.1	0.8
5. Animal care	0.9	0.7	0.1	0.0	0.4	0.0	0.2	0.0
6. Wage labor (agr.)	0.1	0.3	0.6	1.1	0.9	0.7	0.5	0.5
7. Wage labor (non agr.)	0.0	0.0	0.0	0.8	0.1	0.0	0.2	0.0
8. Handicrafts	0.1	1.8	2.6	2.9	2.8	2.2	1.0	2.3
9. Reciprocal labor exchange	0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.1
10. Irrigated rice culture (own land)	0.0	0.2	0.4	0.4	0.6	0.3	0.5	0.2
11. Garden cultivation (own land)	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2
12. Trading	0.0	0.0	0.8	1.1	2.0	0.9	3.1	0.6
13. Preparation of food for sale	0.0	0.0	0.1	0.0	0.1	0.9	0.0	0.7
14. Others	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Household maintenance (1-4)	2.3	2.4	4.0	3.7	4.9	6.7	4.5	3.8
Directly productive (5-14)	1.2	3.0	4.7	6.5	7.1	5.2	6.0	4.6
All work (1-14)	3.5	5.4	8.7	10.2	12.0	11.9	10.5	8.4

TABLE 3

AVERAGE TIME INPUT (IN HOURS) PER PERSON PER DAY IN DIFFERENT WORK ACTIVITIES AMONG THE MALES OF VARIOUS AGE GROUPS IN A NEPALESE VILLAGE

Boys and men								
Age group	6-8	9-11	12-14	15-19	20-29	30-39	40-49	50+
No. in sample	23	31	51	29	20	22	33	31
1. Child care	0.2	0.6	0.2	0.1	0.0	0.5	0.3	0.2
2. Household food preparation	0.3	0.5	0.9	0.9	0.7	0.9	1.0	0.9
3. Firewood collection	0.0	0.1	0.2	0.2	0.3	0.1	0.3	0.1
4. Other household maintenance work	0.2	0.5	0.5	0.8	0.6	1.0	0.9	0.7
5. Animal care	2.6	4.1	3.7	2.8	2.0	1.9	2.1	2.0
6. Wage labor (agr.	0.0	0.0	0.1	0.9	2.1	1.0	1.1	0.5
7. Wage labor (non-agr.)	0.0	0.0	0.2	0.7	0.5	1.2	0.6	0.4
8. Handicrafts	0.0	0.0	0.1	0.3	0.3	0.4	0.5	0.9
9. Reciprocal labor exchange /community labor	0.0	0.0	0.0	0.1	0.4	0.4	0.0	0.1
10. Agricultural work (own land)	0.4	0.6	1.3	2.2	2.8	2.8	2.8	2.7
11. Production of articles for sale [1]	0.0	0.1	0.1	0.5	0.7	1.0	0.8	0.8
Household maintenance (1-4)	0.7	1.7	1.8	2.0	1.6	2.5	2.5	1.9
Directly productive (5-11)	3.0	4.8	5.7	7.5	8.8	8.7	7.9	7.4
All work (1-11)	3.7	6.5	7.5	9.5	10.4	11.2	10.4	9.3

[1] Includes collection of forest products, black-smithing and tailoring; excludes portions of handicrafts, agricultural products and animal products which are sold

TABLE 4

AVERAGE TIME INPUT (IN HOURS) PER PERSON PER DAY IN DIFFERENT WORK ACTIVITIES AMONG FEMALES OF VARIOUS AGE GROUPS IN A NEPALESE VILLAGE

Girls and women								
Age group	6-8	9-11	12-14	15-19	20-29	30-39	40-49	50+
No. in sample	29	30	25	33	28	50	34	26
1. Child care	1.7	0.9	0.6	0.2	0.7	2.9	1.3	0.4
2. Household food preparation	0.2	0.9	1.5	2.0	1.8	2.8	3.1	3.2
3. Firewood collection	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.0
4. Other household maintenance work	0.4	0.7	1.0	0.8	1.0	1.1	1.1	0.8
5. Animal care	2.2	4.7	3.5	3.4	2.5	1.8	1.8	1.6
6. Wage labor (agr.)	0.0	0.1	1.2	2.1	1.8	2.0	1.9	0.7
7. Wage labor (non-agr.)	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
8. Handicrafts	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.1
9. Reciprocal labor exchange /community labor	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
10. Agricultural work (own land)	0.3	1.0	1.5	2.3	3.3	3.0	3.0	3.0
11. Production of articles for sale [1]	0.0	0.0	0.4	0.0	0.4	0.2	0.2	0.9
Household maintenance (1-4)	2.4	2.6	3.3	3.2	3.7	6.9	5.6	4.4
Directly productive (5-11)	2.5	5.8	6.6	8.1	8.4	7.2	7.1	6.3
All work (1-11)	4.9	8.4	9.9	11.3	12.1	14.1	12.7	10.7

[1] Includes collection of forest products, black-smithing and tailoring; excludes portions of handicrafts, agricultural products and animal products which are sold

relatively higher contribution to "household maintenance" work. Food preparation is the type of work in which the sex difference among children is quite apparent. The higher average work-input of girls compared to boys in both the villages is related to the fact that the boys attend school more often than do the girls.

WORK-INPUTS OF CHILDREN VS. ADULTS

In Table 5, the work-inputs of the various younger age-sex groups are expressed as percentages of the standard adult male (> 15 years of age) work-input.

TABLE 5

THE WORK-INPUTS OF JAVANESE AND NEPALESE CHILDREN OF VARIOUS AGE-SEX GROUPS EXPRESSED AS PERCENTAGES OF THE AVERAGE WORK-INPUTS OF MALE ADULTS AGED 15 YEARS AND OVER

	6-8 years	9-11 years	12-14 years	15-19 years
Javanese village				
	"All work"			
Boys	43 %	38 %	56 %	91 %
Girls	39 %	62 %	99 %	120 %
	"Directly productive work"			
Boys	23 %	24 %	42 %	71 %
Girls	15 %	39 %	59 %	86 %
Nepalese village				
	"All work"			
Boys	37 %	65 %	73 %	93 %
Girls	47 %	82 %	96 %	110 %
	"Directly productive work"			
Boys	37 %	61 %	69 %	93 %
Girls	30 %	71 %	81 %	98 %

It can be seen from the above table in both the villages the average input of girls 12-14 years old in "all work" is almost the same as that of male adults 15 years and over; the average input of 15-19 year old girls exceeds that of male adults 15 and over. In "directly productive" work the average work-inputs of children of all age-sex groups are lower than those of adult males 15 and over.

Tending animals is an activity in which children of both villages are engaged more than in any other single category of activity and also more than the adults. There are certain types of work in which the children of both the villages spend a considerable amount of time, although not necessarily more than the adults. Child care is one such activity. The data from both villages suggest that even if children require a lot of care in the first few years, there is a danger of assuming that young children are "highly intensive of mother's time" (Nerlove 1974:5). [4] Most of the time spent in child care is spent not by mothers but by other household members.

EFFECT OF NUMBER OF SIBLINGS ON CHILDREN'S WORK-INPUTS

When resources of the households are limited, it could be assumed from a commonsense point of view that children in smaller families (i.e., with a smaller number of siblings) would do more work than those in larger families. The results obtained from the investigations in the Javanese and Nepalese villages suggest that this assumption may not be a valid one. The samples used for the particular analysis were different from those used for the analysis done so far. The results are presented in Table 6.

Table 6 shows that in both villages and for both age groups in each village, the average work-inputs in "all work" for children with two or more siblings were found to be higher than those with 0-1 sibling. The results indicate that the children in large families tend to work *not less*, but more than those in small families. It is not easy to find out the reasons for such a difference. The following reasons can be suggested : (1) the children in large families are encouraged by the presence of elder siblings to participate in all kinds of work and to begin work at an earlier age; (2) the older children of large families are freer to engage in "directly productive" activities because their younger siblings do the household chores.

[4] M. Nerlove, *Economic Growth and Population : Perspectives of the 'New Home Economics'*, Agricultural Development Council Reprint, Agricultural Development Council, New York, 1974.

TABLE 6

THE AVERAGE TIME SPENT IN "ALL WORK" BY CHILDREN WITH 0-1 SIBLING AND 2 OR MORE SIBLINGS IN JAVANESE AND NEPALESE VILLAGES

	Javanese village				Nepalese village			
	7-12 years		13-18 years		5-12 years		13-19 years	
	0-1 sibling	2 or more siblings	0-1 sibling	2 or more siblings	0-1 sibling	2 or more siblings	0-1 sibling	2 or more siblings
Av. hrs. /day	4.3	5.1	7.5	8.7	5.3	6.5	9.3	10.1

CHILDREN'S WORK-INPUT AND HOUSEHOLD'S ECONOMIC EFFICIENCY

For each of the 20 selected households in the Javanese village, the total work-input of the children, the total child-producer units, the total adjusted income, and the total expenditure on food have been estimated. These are presented in Table 7.

Since expenditure on food is a major and essential item, the difference between total adjusted income and total expenditure on food may be taken as a measure of economic efficiency of a household. The rank correlation co-efficient between the total work-input of children and the balance of income over food expenditure has been found to be 0.54 statistically significant at the one percent level of probability, showing that the households with greater total work-input of children are economically more efficient. Since, again, the rank correlation coefficient between the total work-input of children and the total child-producer units in the household is also 0.92 statistically significant, it follows that the households with a great number of child-producer units are economically more efficient. The positive relationship between the total work-input of children in a household and its economic efficiency is relatively independent of its access to land (White 1976 : 362-370). [5]

[5] B.N.F. White, *Production and Reproduction in a Javanese Village*, Ph.D. dissertation in anthropology, Columbia University, New York, 1976.

TABLE 7

THE TOTAL WORK-INPUT OF CHILDREN ALONG WITH SOME SUMMARIZED DATA REGARDING INCOME AND EXPENDITURE OF 20 HOUSEHOLDS IN THE JAVANESE VILLAGE

Hh. No.	Children's total work-input (hrs./yr)	Total child producer units	Income from wet rice culture (Rp.1000)	Total income (Rp.1000)	Food expenditure (Rp.1000)	Balance of income over food expenditure (Rp.1000)
1	15475	5.8	187	241.7	116.3	125.4
2	13869	4.2	13	160.8	86.4	74.4
3	13524	3.2	15	136.2	89.8	46.4
4	8023	2.3	13	128.1	67.8	60.3
5	7773	2.2	19	126.1	59.5	66.6
6	7612	2.9	27	96.5	72.3	24.2
7	7206	2.2	0	60.0	52.4	7.6
8	7163	2.2	37	92.2	74.4	17.8
9	6930	1.8	36	103.1	96.8	6.3
10	6832	2.0	41	119.4	63.9	55.5
11	6238	2.9	0	55.4	65.4	- 10.0
12	5670	2.3	25	112.8	102.6	10.2
13	5420	1.5	12	76.1	83.5	- 7.5
14	5117	1.5	23	97.8	57.8	40.0
15	4811	1.0	10	73.2	86.0	- 12.8
16	4419	0.8	15	57.8	46.9	10.9
17	3471	0.7	42	173.1	89.7	83.4
18	2871	0.6	0	62.8	47.2	15.6
19	863	0.3	0	48.6	46.4	2.2
20	0	0.0	26	77.1	70.3	6.8

VALUE OF CHILDREN AS OLD-AGE SECURITY : JAVANESE VILLAGE

In all peasant societies based on household economy, elderly parents depend largely on their offspring for care and sustenance. The dependence on sons is much more common than the dependence on daughters. In the Javanese village, however, the parents are almost equally dependent on sons and daughters in their old age. This is due to the somewhat flexible pattern of marital residence in Java.

One useful way to find out the degree of care and help given by children to their elderly parents is to analyze the

residential pattern of the latter. In peasant societies the giving of care and help is possible for the most part when the children and parents live in the same household or neighborhood. The residential pattern of 121 elderly "cases" in the Javanese village has been analyzed for this purpose and presented in Table 8.

One hundred and twenty-one "cases" selected from the 478 households surveyed for other purposes includes the following : 60 couples in which one or more partner is 61 years or over, 55 single (mostly widowed) women 61 years or over, and 6 single (all widowed) men 61 years or over.

Out of 121 "cases", 96 were living with various combinations of son(s) and daughter(s). There were seven "cases" who lived with grandchildren only. If all the sons and daughters have moved away, it is quite common for a teenage granddaughter to be "parked" (*dititipake*) with the grandparents to be cared for by, or more often to care for them. Only 13 couples and five single women were living alone. Three couples lived with servants only. They were relatively wealthy couples whose children or their spouses had obtained salaried jobs in the cities. It seems that to a very great extent, parents rely on their *own* (including adopted) offspring and grandchildren, rather than siblings, siblings' children etc., at least for their immediate, day-to-day support.

VALUE OF CHILDREN AS OLD-AGE SECURITY : NEPALESE VILLAGE

A similar analysis of the residential pattern of elderly people has been done for the Nepalese village. It is presented in Table 9.

One hundred and eighty "cases" in the Nepalese village selected from 675 households surveyed for other purposes includes the following : 85 couples in which one or more partner is 61 years or over, 69 single (mostly widowed) women 61 years or over, and 26 single (mostly widowed) women 61 years or over, and 26 single (mostly widowed) men 61 years or over.

Out of 180 "cases", 130 were living with various combinations of son(s) and daughter(s), 15 were living with the daughter(s)-in-law and five with grandchild(ren) only. This indicates that most of the people 61 years and over in the Nepalese village depend on their children, children's spouses or grandchildren. A higher proportion of elderly people living with their daughter(s)-in-law in the Nepalese village is a reflection of the fact that married sons often leave

TABLE 8

HOUSEHOLD COMPOSITION OF 121 HOUSEHOLDS IN THE JAVANESE VILLAGE IN WHICH AT LEAST ONE PERSON IS 61 YEARS OR OVER

Composition of household	Elderly couples (N=60)	Elderly single women (N=55)	Elderly single men (N=6)	Total (N=121)
1. Living alone	13	5	-	18
2. With son(s) only (+ their spouses if any)	6	4	-	10
3. With daughter(s) only (+ their spouses if any)	6	8	2	16
4. With son(s) and daughter(s) (+ their spouses if any)	10	1	-	11
5. With son(s) (+ their spouses if any) and grandchildren	8 [1]	14	-	22
6. With daughter(s) (+ spouses if any) and grandchildren	5 [2]	14 [4]	1	20
7. With son(s) and daughter(s) (+ spouses if any) and grandchildren	5	4 [5]	-	9
8. With grandchildren only	4 [3]	3	1	8
9. With sibling only (+ his/her nuclear family if any)	-	2	2	4
10. With servant(s) only	3	-	-	3

Notes :

[1] In one case, plus an unmarried teenage nephew and niece (*kepenakan*); in another case, the son was living in Jakarta and the couple lived with their daughter-in-law and grandchildren.

[2] In one case, plus the son-in-law's widowed mother (*besan*).

[3] In one case, the couple live with their married grandson and great-grandchildren.

[4] In one case, plus an unmarried niece (*kepenakan*); in another, the daughter had died, her mother lived with widowed son-in-law, grandchildren and great-grandchildren.

[5] In one case, plus four resident servants.

TABLE 9

HOUSEHOLD COMPOSITION OF 180 HOUSEHOLDS IN THE NEPALESE VILLAGE IN WHICH AT LEAST ONE PERSON IS 61 YEARS OR OVER

Composition of household	Elderly couples (N=85)	Elderly single women (N=69)	Elderly single men (N=26)	Total (N=180)
1. Living alone	10 [1]	14	4 [2]	28
2. With son(s) only (+ their spouses if any)	11	5	0	16
3. With daughter(s) only (+ their spouses if any)	9	0	1	10
4. With son(s) and daughter(s) (+ their spouses if any)	9	0	1	10
5. With daughter(s) - in - law (+ children and grandchildren if any)	6	7	2	15
6. With son(s) (+ spouses if any) and grandchildren	30	28	14	72
7. With daughter(s) (+ spouses if any) and grandchildren	1	7	1	9
8. With son(s) and daughter(s) (+ their spouses if any) and grandchildren	8	3	2	13
9. With grandchildren only (+ spouses if any)	1	3	1	5
10. With sibling(s) only (+ his/her family if any)	0	2 [3]	0	2
11. With servant(s) only	0	0	0	0

Notes :

[1] Majority of elderly couples living alone lived near or next to household of one or more offspring who helped take care of them.

[2] Four elderly males living alone were : 1 *sadhu* (mendicant), 1 unmarried male with no offspring (transvestite), 1 cripple who was deserted by his wife and had no offspring, 1 old Thami who lived next to and was supported by his son.

[3] Two elderly women living with sibling; both widowed with no living children to support them.

their wives in their parental homes when they migrate out of the village temporarily to earn money. There were 28 "cases" out of the 180 who lived alone but most of these lived near or next to one or more offspring who helped to take care of them.

CONCLUDING REMARKS

The data analyzed in this paper are quite limited in scope for the purpose of testing the validity of the "economic interpretation" of fertility. They do not include the economic costs of children and the perception of parents about the usefulness of children as workers and as sources of old-age security. The sample sizes were too small for making meaningful comparisons among children of different parities and other characteristics.

There are considerable problems in translating the time allocation data into measures of the productive value of children relative to adults. The household economy of the villages studies have two important characteristics : (1) there are qualitative and quantitative differences in the economic returns from labor involving different activities; (2) there are a large number of necessary activities which are prerequisites to the survival of the households but which produce no tangible "income" and have no acknowledged "wage rate". These characteristics make it reasonable to treat any one unit of working-time as being of equal value to any other unit, no matter which household member performs it, and no matter what the immediate visible return from particular activity is. Thus the most important measure of the relative contribution of women vs. men, or of children vs. adults should perhaps simply be the relative amounts of time spent by individuals in any kind of work activity.

There are also serious methodological problems in collecting accurate time allocation data. In the Javanese village the data for a particular day were collected mainly by interviewing the household members on the following day, although these were checked and supplemented by occasional observations. In the Nepalese village, these data were collected mainly through observations and supplemented by occasional interviews. Both the techniques of interview and observation have some limitations. The interview technique suffers from memory lapse and inaccuracy of time reporting on the part of the respondents. In the Nepalese village most of the people did not have a sufficient concept of time to report the time spent in various activities with reasonable accuracy. The observation technique suffers from the lack of

sufficient staff needed to observe a number of subjects at the same time throughout a day and also from the possibility of influencing the subjects' behaviors. The influences of observation on work-behavior is particularly high for very young children. They are not very good interview respondents either. So it was extremely difficult to record the time allocation data for children less than six years old, although some of them do considerable work.

The microeconomic theory of fertility recognizes children's work-input to the household productivity as a factor influencing fertility behavior of parents in peasant societies, but the relevant data available so far have been used to show that "work-input by children under 15 in peasant agriculture is quite limited" and that "children have negative economic value in peasant agriculture". [6] The data presented in this report tend to contradict these conclusions. They demonstrate that the work-input by children under 15 in the Javanese and Nepalese villages is quite substantial. They also suggest that at the current rate of reproduction and under the present circumstances, children most probably have net positive economic value to their parents in these villages, aside from the old-age security provided by them to their parents. There are reasons to claim that the data presented in this paper about children's work-input are more accurate than those used by Mueller to draw her conclusions stated above.

RÉSUMÉ

La valeur économique représentée par les enfants dans deux sociétés rurales

Cet exposé cherche à estimer la "valeur" économique réelle que représentent les enfants pour leurs parents dans deux villages ruraux à Java et au Népal. La moyenne de temps que consacrent chaque jour les enfants à des activités diverses - qu'il s'agisse d'activités ménagères ou de travail directement productif - est directement calculée. L'aide fournie par les enfants à leurs parents âgés est principalement évaluée

[6] E. Mueller, "The Economic Value of Children in Peasant Agriculture". Paper prepared for the *Conference on Population Policy* sponsored by Resources for the Future, February 28 - March 1, 1975 (mimeographed), pp. 34,70.

après examen de l'organisation du foyer. Pour rassembler ces données on a utilisé les techniques anthropologiques d'interviews répétées et d'observation directe.

Parmi les plus importantes, on note les conclusions suivantes : 1) le travail fourni par les jeunes âgés de moins de 15 ans, est suffisamment substantiel pour permettre de penser qu'ils représentent une "valeur" économique positive pour leur parents, sans compter l'assistance qu'ils leur apportent sur leurs vieux jours; 2) dans presque tous les groupes d'âge, les filles des deux villages fournirent plus de travail que les garçons; 3) le travail fourni par les enfants faisant partie d'une fratrie composée de deux enfants ou plus était plus considérable que celui fourni par les enfants d'une fratrie de 0 à 1 enfant; 4) le coéfficient de corrélation entre le travail total fourni par les enfants d'une part et le rapport revenu-dépenses en ce qui concerne l'alimentation dans les foyers d'autre part est significatif : et 5) la plupart des personnes âgées dans les deux villages vivaient, soit chez leurs enfants, soit dans leur voisinage.